

Is "W. M." aware that the survey of the first counties was found useless and had to be made over again?

I will not trespass farther than to answer "W. M.'s" statements, as follows:—The date of final correction on the sheet 18 of Dublin (the city sheet) is 1843: the date on the city sheets on the 60 inch scale is 1847. The survey of Ireland, consequently, could not be complete in 1842, as "W. M." states. Nor is it completed yet, nor can it be till the northern counties are revised. In an office in Dublin, which is styled the "General Survey and Valuation Office of Ireland," the areas of all holdings not under five acres are computed from the paper; and as from the contraction of the paper the areas are found to be deficient about three acres in every hundred, the deficiency is divided or assimilated, as it is called, proportionally over the contents of the different townlands; that is, the areas are made to agree with the Ordinance. What will "W. M.," as an honest surveyor, think of this? If for railway purposes a mere enlargement of the houses would suffice, would it not have been cheaper to enlarge them from the 6 inch maps? Would it not have saved great labour and expense? I am sorry to find a surveyor (which "W. M." states he is) attempting to advocate the Ordnance survey: it is a system which has driven many of our local surveyors from the country, and reduced those who remain to comparative penury.

It was this that first led me to call on the surveyors of Scotland, through the medium of your journal, and to the noblemen and gentlemen of Ireland whose estates were in the Encumbered Estates Court. I am well aware that I have succeeded beyond my expectation, and that more than one London journal has extracted my letter from THE BUILDER.

JOHN S. SLOANE.

Books.

Dynamics, Construction of Machinery, Equilibrium of Structures, and Strength of Materials. By G. FINDEN WARR. Baldwin, Paternoster-row. 1851.

The object of the author of these treatises is to form a continuation to those on mechanics in the Library of Useful Knowledge, and to supply what is wanting in these treatises. We have here, as it were, the practical fruit of the tree planted by Brougham, and the fruit seems worthy of the tree. A more practically useful work to most of our readers they will not readily meet with, especially as regards the latter half of the volume. The treatise on the Equilibrium of Structures is devoted to buildings in wood and stone. The former embraces structures made up of framework, and, commencing with the stability of the simple frame often used at the well's mouth to draw up a bucket, proceeds to roofs, domes, and centres for bridge-buildings. In the latter part, those structures built up of small pieces, as stone and brick, are considered, from the equilibrium of two irregular stones, one resting on the other, to walls and arches. The latter part of the treatise is mostly practical, in which the writer has endeavoured to explain in few words, the proceedings of engineers in erecting bridges, in stone, wood, and iron, including the suspension principle, and to give some of the results of their experience. Illustrative descriptions of a number of bridges are added.

As to the treatise on the strength of materials, the writer states that some trouble has been taken to collect and condense the great amount of scattered information supplied by numerous experimenters. Much of that information, however, has been already laid before our readers from time to time, although it certainly is an advantage to have it thus collected, as, indeed, it well deserves to be, for our knowledge of this subject, as remarked, has greatly increased within the last fifteen years. The author, however, will find, by a more diligent search through our pages, that he has not even yet exhausted the collection.

The work is profusely illustrated by woodcuts, and is in all respects well got up. Its size and form, as well as style, are such, if we

mistake not, as will very well bind up with the Library of Useful Knowledge treatises.

Essays from "The Times." London: John Murray. 1851.

A selection from the literary papers which have appeared in the Times has been made for Murray's "Reading for the Rail," and forms an exceedingly interesting volume. Nelson and Lady Hamilton, Louis Philippe and his family, Howard, Southey, Coleridge, Swift, and John Keats, are amongst the subjects treated of, and supply matter as interesting as a fairy tale. Those who would know what industry can accomplish, and want encouragement to persist in adverse circumstances, should read the notice of Southey.

Miscellaneous.

HOLYHEAD HARBOUR WORKS.—An interesting account of these works appears in the *Liverpool Courier*, from which we extract the following particulars:—"Several plans were proposed by different engineers. Mr. J. Walker, C.E. to the Admiralty, proposed a plan which was to enclose an area of ninety acres, with 3,300 feet of breakwater, and 2,500 feet of pier, at an expense of 400,000l. Capt. Beechy, R.N., proposed to enclose 176 acres, with 4,500 feet of breakwater and 3,500 feet of pier, at an expense of 550,000l.; and Mr. Rendell, whose plan has been adopted, proposes to make a breakwater of 5,000 feet from Soldiers' Point eastward, to terminate at the Platters' buoy, and a pier of 2,000 feet from Yn Gybi (Salt Island), with its head resting on the outer platter, enclosing an area of 316 acres, three-quarters of a mile long, and in 6½ fathoms water; the cost of the works to be 700,000l. The works are carried on under the superintendence of Mr. George C. Dobson, resident engineer, and the contract for the breakwater, which is all that has been issued, has been taken by Messrs. J. and C. Rigby, of London. The works were commenced in January 1848. Twelve months were occupied in laying down rails to the quarries, erecting stages, and making other necessary preparations for the works; since which time, on an average, 1,100 men have been employed on the undertaking. There are two quarries used, one called the Moelfra Quarry, from which limestone is procured, and the other quarry is, in fact, the Holyhead Mountain, from the sides of which the materials for the work are taken. The works may be described as consisting of two breakwaters. The east, the smaller, has been commenced, but very little has been done upon it. So far attention has been directed chiefly to the north breakwater, which is the most important portion. The works now extend about 2,800 feet seaward, and they will have to be carried out as far again. The contractors extend their operations about 20 feet a week, on an average. When the breakwater is completed, the wall or pier will then be built upon it, and the works brought to a close.

THE SUBMARINE TELEGRAPH.—A short cut of the great cable has been sent to us for inspection. As we before said, it is a decided improvement on the previous one so far as regards protection to the gutta percha and the wire. As for strength there is no comparison: it is immensely stronger. Nevertheless we adhere to what we have said on the subject of its permanence. We should be sorry to produce an unfavourable impression of so noble a design: our very anxiety for its success leads us to dread a second failure, which would do immense mischief to the object in view, and indefinitely postpone its final adoption. In one point we are glad to find that the reporters for the daily papers are said to have been mistaken, namely, in stating that there was any complete "join" or "imperfection" in the cable at any one place. Would it not have been much more to the purpose, however, had those interested put it in the power of all and sundry members of the press by invitation to examine and judge for themselves and not by mere report of others? Some of the daily papers seem to have

had representatives present at the completion of the work, others had not: no invitation reached us. We were obliged, therefore, to gather the particulars from those who had, and we still find the allegations as to bungling, of which we took notice, reiterated even after being contradicted in the Times, which, it is declared, has been imposed upon as to the single "hitch," the heavy "sea," and so on. That the cable runs short, and does not grapple with the very difficulty, on the French coast, which it was made to cope with, no one denies. We only trust that an efficient continuation of it will speedily bring the whole to completion, when there can be no doubt that it will work well so long as the cable and its insulation remain entire. For the manufacture of the rope, Messrs. R. S. Newall and Co. deserve great praise. It weighed 180 tons: an extraordinary piece of work.

THE OMNIBUSES.—Now, we suppose, it will be the people's turn to deal with the multitude of omnibuses called into action during the last six months. Short distance prices appear to be a desideratum, as well as a return to the old threepenny half-distances and Bank fourpenny fares. These, we dare say, will satisfy the middle classes, who would daily and constantly fill the 'buses for short lifts at say 2d., while they retain even 3d. in their pockets. There is wanted, too, in the metropolis—what Liverpool has already got—a working class omnibus at still cheaper fares—for certain distances even so low as a penny, though it must be admitted that if these are to traffic throughout the whole length and breadth of the metropolis, the fare for the whole distance must be higher,—say 3d.—half the middle class price. The penny omnibuses at Liverpool are literally besieged by the working classes, and taken by storm, and the demand for more is about to be supplied by a new and superior kind of vehicle. In whatever way it may be managed, there is likely to be a reform in the omnibus ranks in the metropolis, and a reform is needed in the vehicle no less than in the fare. Let the Parisian omnibus, even, be simply imitated, and the proprietors will find the change to be for their advantage, and to enable them at once to rearrange their fares on the desired scale. A little wider and a good deal longer—just such a machine as was exhibited in Hyde-park—if we mistake not, from Glasgow—will do. Would not iron ones be lighter to draw than those we have, even though they were larger?

DUCTILITY OF IRON.—A singular illustration of the ductility of iron has been produced at the establishment of Mr. G. Downing, Brown Iron Works, Birmingham. It is in the form of a book, the leaves of which are of iron, rolled so fine that they are no thicker than a piece of paper. The book is neatly bound in red morocco, and contains forty-four of these iron leaves, the whole being only the fifteenth of an inch thick.

PUBLIC BATHS AND WASHHOUSES FOR THE LABOURING CLASSES.—The following is the return for the month ending September 27th:—

ESTABLISHMENT.	BATH DEPARTMENT.		WASH-HOUSE DEPARTMENT.	
	Number of Bathers.	Total Receipts.	Number of Washers.	Total Receipts.
LONDON.				
The Model, Whitechapel	12,188	171 17 6	2,965	30 19 10
St. Martin-in-the-Fields	17,394	270 18 8	3,809	38 16 5
St. Marylebone	14,661	184 11 8	1,673	18 15 1
St. Margaret and St. John, Westminster	9,293	107 9 8	1,469	15 10 2
Totals	54,418	734 16 11	9,817	104 3 8
LIVERPOOL.				
Corwallin-street	10,743	154 18 7	not open	
Paul-street	3,766	46 4 6	1,391	13 4 7
Hull	5,723	52 7 5	241	4 3 0
Bristol	4,018	48 7 11	304	3 16 5
Preston	3,880	38 0 0	217	3 15 1
Birmingham	4,648	51 4 0	88	2 0 0